


WEEK 1 PRACTICE PROBLEMS

Conditional Statements

SL	Problem statement
1	<p>Write a C program to check whether a number is divisible by both 5 AND 11 or not.</p> <p>Input: 55</p> <p>Output: 55 is divisible by 5 and 11</p>
2	<p>Write a C program to check whether a number is divisible by 5 OR 11 or not.</p> <p>Input: 50</p> <p>Output: 5 is divisible by 5</p>
3	<p>Write a C program that takes the three angles of a triangle as input, and determine whether the angles are valid or not.</p> <p>Input: 90 45 45</p> <p>Output : Valid</p> <p>Note : The user may accidentally enter negative angles or angles more than 180 degrees.</p>
4	<p>Write a C program that takes the three sides of a triangle as input. Determine whether the triangle is equilateral , isosceles or scalene.</p> <p>Input: 90 45 45</p> <p>Output : Equilateral</p>
5	<p>Write a C program to input any alphabet and check whether it is vowel or consonant or whether it is not an alphabet.</p> <p>Input: A</p> <p>Output: Vowel</p> <p>Input: l</p> <p>Output: Not an alphabet</p> <p>Input: c</p> <p>Output: A consonant</p>
6	<p>Write a C program to input electricity unit consumed and calculate total electricity bill according to the given condition:</p> <p>For the first 50 units Tk. 0.50/unit For next 100 units Tk. 0.75/unit For next 100 units Tk. 1.20/unit For units above 250 Tk. 1.50/unit</p> <p>An additional charge of 20% is added to the bill</p> <p>Input: 250</p> <p>Output: 264</p>
7	<p>Write a c program to find the roots of a quadratic equation.</p> <p>The roots of a quadratic equation $ax^2 + bx + c = 0$ are found using</p> <div style="text-align: center;">  </div> <p>$b^2 - 4ac = 0$, then there will be only 1 root $b^2 - 4ac$ is +ve , then there will be two real roots $b^2 - 4ac$ is -ve , then there will be two imaginary number roots</p> <p>Input : 2, 10, 2</p> <p>x1=-0.208712</p> <p>x2=-4.79129</p>

8	<p>In a factory there are three categories of employees: X, Y, Z. The manager announced a bonus for the employees who have :</p> <ul style="list-style-type: none"> ➤ 12 years or more work experience and more than 5 family members, OR ➤ Less than 1000.50 BDT total family income per month <p>He is also generous to his bonus deprived employees who have a larger family. Thus, He has declared the bonus for</p> <ul style="list-style-type: none"> ➤ For the employees of ‘Y’ and ‘Z’ categories who have more than 8 family members and has less than 1100.78 BDT total family income per month. ➤ However, if an employee is from ‘X’ category, he can avail the bonus having more than 5 family members. <p>Now you need to automate the system by writing a program to take following inputs from user (employee) and notify him whether he is eligible for the bonus or not.</p> <ul style="list-style-type: none"> ➤ Category (character) ➤ Years of work experience (integer) ➤ Number of family members (integer) ➤ Total family income per month (float) <p>Sample input X 11 6 1500 Y 6 9 1500</p> <p>Sample output Will Receive the Bonus Will Not Receive the Bonus</p>
9	<p>Develop a calculator that can perform the operations + - * / using the switch case operator.</p>